

ABSTRACT OF THE DISCLOSURE

For preventing clogging in an injection nozzle for supplying a reducing agent to exhaust gas flow on an upstream side of a reducing catalyst and for improving the efficiency of NO_x purification processing, the injection nozzle 14 has a tip end portion 18 provided with a ring shaped protruding ridge 19 disposed on an outer peripheral surface of an exhaust gas downstream side end portion of the tip end portion 18 that is arranged substantially in parallel with an exhaust gas flow direction A inside an exhaust pipe 13, the ring shaped protruding ridge 19 being provided with injection hole or holes 20 drilled outward from the central axis of the injection nozzle 14, so that the reducing agent is ejected on the exhaust gas upstream side of the reduction catalyst, from the injection holes 20. The injection holes 20 do not directly open on a wide outer peripheral surface of the injection nozzle 14, and then when injection stops, the reducing agent does not become attached to or does not remain around the injection holes 20, or the remaining amount thereof becomes small, so that clogging of the injection holes 20 of the injection nozzle 14 is prevented, and the efficiency of NO_x purification processing is improved.